

REMARKS

Claims 1-18 are pending after entry of this paper. Claims 1-13 have been rejected. Claims 14-18 have been withdrawn. Applicants reserve the right to petition for rejoinder of withdrawn claims and/or to pursue withdrawn claims in a divisional application.

Claims 6, 8, 10, and 11 have been amended. No new matter has been introduced by these amendments. Reconsideration and withdrawal of the pending rejections in view of the below remarks are respectfully requested.

Response to Rejections under 35 U.S.C. §103

Claims 1-6 and 9-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,685,892 to Ikoma et al. (“Ikoma”). Applicants specifically address the rejection to independent claim 1, and reserve the right to address each of the rejections to the dependent claims separately.

Regarding independent claim 1, the Examiner states that Ikoma teaches a “chute-sloping channel” (i.e., a funnel), and teaches “a bending member for pressing the leading end of the anode scrap...and the bending angle should be 10° to 45° (page 3 of the Office Action). The Examiner further states that “when the bent leading end of the anode scrap reaches the melt in the converting furnace, the leading end...changes its posture gradually from a vertical one to a horizontal one” (pages 3-4 of the Office Action). The Examiner contends that each and every element of claim 1, with the exception of the specific radius of curvature, is taught by Ikoma. Applicants respectfully disagree.

Ikoma is as described in paragraph [0005] of the instant application publication (US2005/0223845). More specifically, Ikoma discloses two distinct embodiments of an assembly (i.e., impingement-preventing device) for introducing anode scrap into a metallurgical furnace through an opening (abstract of Ikoma). The embodiment where the anode is bent is disclosed as employing a “Rending [sic] press for bending the leading end of the anode scrap” (col. 2, lines 15-16). More specifically, “the bending press may be arranged to bend the leading end of the anode scrap in such a direction that when the anode scrap is positioned in the chute, a bent portion is directed upwards with respect to inclination of the chute” (col. 2, lines 27-31). Figure 9 of Ikoma illustrates the anode scrap being introduced in accordance with the bent anode embodiment.

In the first instance, the Examiner admits that Ikoma discloses the bent anode reaching the melt in a vertical position (see above). The Examiner further admits that after reaching the melt in a vertical position, the anode then changes its posture gradually to a horizontal position. Contrary to Ikoma, independent claim 1 requires that the “bent anode meets the surface of a melt contained in a smelting reactor in an essentially horizontal position” (claim 1, emphasis added). Ikoma fails to teach an apparatus that results in the bent anode meeting the melt in an essentially horizontal position. As such, and in accordance with the Examiner’s own admission, Ikoma fails to teach this element of claim 1.

Neither does Ikoma disclose this element of claim 1, nor does Ikoma render this element of claim 1 obvious. The bending arrangement as taught by Ikoma is configured such that the bent anode must meet the surface of the melt in a vertical position in order to be operational. That is, the bent anode must meet the surface of the melt in a vertical position such

that the leading end will tend to float “due to the increase in resistance exerted thereon” as admitted by the Examiner on pages 3-4 of the Office Action (see also Figure 9 of Ikoma).

As an additional point of distinction, claim 1 requires that the anode be an “essentially completely bent anode,” whereas Ikoma discloses an anode with only the leading end bent (col. 8, lines 1-25 and element **1b** in Figure 9). The instant specification, in describing an essentially completely bent anode, states that “[b]y bending the anode essentially completely, i.e. on both sides with respect to the center, it is possible to shift its center of gravity and thus to achieve an advantageous effect in its dropping behavior” (paragraph [0010] of the instant application publication). The bent anode of Ikoma, as admitted by the Examiner, has only the leading end bent, in contrast to the bent anode of instant claim 1, where both ends are bent.

Thus, for the foregoing reasons, applicants respectfully submit that instant claim 1 is neither anticipated by nor obvious over the art of record. Reconsideration and withdrawal of the rejections of claims 1-6 and 9-13 under 35 U.S.C. §103(a) are respectfully requested.

Claims 7 and 8 have been rejected under 35 U.S.C. §103(a) for allegedly being obvious over Ikoma in view of U.S. Patent No. 4,578,977 to Murakami et al. For the same reasons why independent claim 1 is neither anticipated by nor obvious over the cited art as described above, claims 7 and 8 are also neither anticipated nor obvious. Applicants respectfully request reconsideration and withdrawal of the rejections of claims 7 and 8 under 35 U.S.C. §103(a).

Dependent Claims

Applicants have not independently addressed all of the rejections of the dependent claims. The applicants submit that for at least similar reasons as to why independent claim 1 from which all of the dependent claims 2-13 depend are believed allowable as discussed above, the dependent claims are also allowable. Applicants, however, reserve the right to address any individual rejections of the dependent claims and present independent bases for allowance for the dependent claims should such be necessary or appropriate.

CONCLUSION

Based on the foregoing remarks, applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application. Favorable action by the Examiner is earnestly solicited.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4819-4735.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4819-4735.

Respectfully submitted,
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